

ACCESSION NR: AP3003785

factor, λ - x-ray wavelength, V - volume of elementary cell, p - recurrence factor. Using these definitions plus the fact that the x-ray diagrams of partially oriented polymers are superpositions of the texture x-ray diagram upon the Debye x-ray diagram, the formula to determine n_{or} yields

$$n_{or} = \frac{4\pi m^2 c^4 V^2 I_{\text{ref}} \sin^2 \alpha - \cos^2 2\theta}{e^4 \lambda^3 I_0 F_{hkl}^2 p_{\text{Debye}} V_0 (1 + \cos^2 2\theta)}$$

where θ - Bragg reflection angle and α - angle between scattered beam and texture axis. "The authors are grateful to A. I. Kitaygorodskiy for his interest in this work." Orig. art. has: 11 formulas and 2 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds, AN SSSR)

SUBMITTED: 06Dec61

DATE ACQ: 08Aug63

ENCL: 00

SUB CODE: SS

NO REF SOV: 003

OTHER: 001

Card 2/2

YIPATGORODSKIY, . . . : FRANKIN, D.Ya.

Structure of cellulose. Part 2. Vysokom. speed. 1 no.2:279-286
F. '59. (MIRA 12:10)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Cellulose)

SOV/70-4-4-30/34

AUTHORS: Kitaygorodskiy, A.I. and Tsvankin, D.Ya.

TITLE: One-dimensional Diffraction in X-ray Diffraction Patterns
from Polymers

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 4, pp 625-627 (USSR)

ABSTRACT: Theoretical. One-dimensional diffraction showing an intensity distribution spread out continuously along layers in reciprocal space is sometimes encountered for systems of chains which are parallel but otherwise disordered. It is, however, shown here that one-dimensional scattering can occur when there are only slight departures from strict three-dimensional order due to defects in the packing of chains. The effects of disturbances of the proper inter-chain distances in the equatorial plane and the displacements of the chains parallel to their axes is examined. It is assumed (A) that the packing defects consist of the chance departures of the chain axes from the positions they would have in the ideal lattice or (B) that the defectiveness of the packing increases in a radial direction. The result for (A) is analogous to that

Card1/3

SOV/70-4-4-30/34
One-dimensional Diffraction in X-ray Diffraction Patterns from
Polymers

obtained for isotropic thermal vibrations but there is a supplementary term causing the intensity to be distributed in layer lines. For the zero layer, the intensity falls off at large and at small angles and for higher layers it decreases with distance from the meridian. For (B) the diffraction field will get narrower but the lines will become wider than in the first case. If the disturbance to the long-range order increases, then on the zero layer the scattering will become of the gaseous type with an increase at low angles. Thus, if such a disturbance occurs then a continuous intensity distribution along the layer lines arises, because of the one-dimensional diffraction of the separate chains. There are 4 references, of which 2 are Soviet, 1 German and 1 English.

Card 2/3

SOV/70-4-4-30/34

One-dimensional Diffraction in X-ray Diffraction Patterns from
Polymers

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR
(Institute of Elemental-organic Compounds of the
Ac.S., USSR)

SUBMITTED: March 15, 1959

Card 3/3

TSVANKIN, D. Ya.

~~"2-11-60"~~. X-Ray Diffraction by Systems of Long Molecules and One-Dimensional X-Ray Diffraction of Cellulose."

The Inst. of Organo-Element Compounds of the USSR Acad. of Sciences, Moscow, USSR.
paper submitted for 5th Gen. Assembly, Symposium on Lattice Defects, Intl. Union of Crystallography, Cambridge U.K. Aug 1960.

KITAYGORODSKIY, A.I.; TSVANKIN, D.Ya.; PETROV, Yu.M.

Large periods in enanthic fibers. Vysokom.soed. 3 no.9:1428
S '61. (MIRA 14:9)

(Polyamides)

33378

S/190/62/004/002/007/021
B101/B110

15.8080

1436

AUTHORS:

Moskatov, K. A., Tsvankin, D. Ya.

TITLE:

Change in the structure of caprone on heat treatment

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962, 201-206

TEXT: An X-ray study was made of two caprone resin specimens (6.4.55 mm, according to ГОСТ(GOST) 4648-56) after they had been treated with boiling water for up to 15 hrs. Specimen A was a product of the Kiyevskiy kombinat iskusstvennogo volokna (Kiyev Combine of Synthetic Fibers), specimen B was a product of the Klinskiy kombinat iskusstvennogo volokna (Klin Combine of Synthetic Fibers). The authors observed three types of intensity distribution (Fig. 3). The X-ray pictures of the original specimens showed type 2. After 15 hrs, type 1 was observed in A and B. In A this transition took place without intermediate state, in B a purely monoclinic structure (type 3) was observed after 7 hrs, after 10 hrs type 2, and after 5 hrs type 1 were observed. After 8 months the lines of hexagonal structure became more intense. The purely monoclinic structure is not stable. It gradually passes into the hexagonal structure while forming a texture. The calcula-

Card 1/0 3

33378

S/190/62/004/002/007/021

B101/B110

Change in the structure of...

tion of the diffraction intensities from already published equations (Dokl. AN SSSR, 120, 1076, 1958) showed that with diffraction in regions containing 50 chains the maxima 200 and 002 are only slightly separated from each other, with 100 chains however, a distinct separation is observed. This calculation showed that the line intensities decrease which has, however, not been observed. Calculations made on the assumption that the deviation ΔQ from the ordinary interchain distance be proportional to this distance: $\Delta Q = kQ$, showed that for $k = 0.1$ the maxima merge without the intensity being reduced. Hence the distortion of the lattice of the chain centers in the equatorial plane and not the formation of groups containing 20-40 ordered chains is assumed to be the most probable reason of the line widening of the monoclinic structure. Transition 2 \rightarrow 1 corresponds to a better ordering of the lattice in the equatorial plane and to the occurrence of well ordered regions with monoclinic structure besides hexagonal regions. A. I. Kitaygorodskiy is thanked for discussions. There are 4 figures and 14 references: 12 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: W. O. Baker, C. S. Fuller, J. Amer. Chem. Soc., 62, 3275, 1940; 64, 2399, 1942; 65, 1120,

Card 2/0 3

00010

Change in the structure of...

S/190/62/004/002/007/021
B101/B110

1943; D. R. Holmes, C. W. Bunn, S. J. Smith, J. Polymer Sci., 17, 159, 1955.

ASSOCIATION: Nauchno-issledovatel'skiy i eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya (Scientific Research, Experimental and Design Institute of Machine Construction for the Food Industry). Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental Organic Compounds of AS USSR)

SUBMITTED: February 7, 1961

Fig. 3. Curves of intensity distribution in the region of the main interferences. Legend: (1) Two lines of monoclinic, and one of hexagonal structure; (2) line of hexagonal structure and wide circle formed by the merging of the two monoclinic lines; (3) two lines of monoclinic structure; ordinate, intensity in arbitrary units.

Card 3/1

3

... .. regions
... .. attached polymer capton

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9"

The above curves of SHOWN & ... of the

... between the ...

...

...

ASST. DIR. (ADM.)
COMM. & INT. AFF.

SUBMITTED 14-MAR-64

SUB CODE GC, MT, GP

NO REF SOV 002

OTHER 002

L 27330-66 EWT(m)/EWP(j)/T IJP(c) RM
ACC NR: AP6008961 SOURCE CODE: UR/0190/65/007/011/1848/1856

AUTHORS: Zubov, Yu. A.; Tsvankin, D. Ya.

ORG: Institute of Elementoorganic Compounds, AN SSSR (Institut
elementoorganicheskikh soyedinenii AN SSSR); Institute of Physical Chemistry im.
L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Temperature-induced changes of the long period in oriented polymers. 2.

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1848-1856

TOPIC TAGS: x ray diffraction pattern, synthetic fiber, thermal effect

ABSTRACT: Reversible and irreversible changes in the structure of stretched
polyethylene, caprone, and polypropylene fibers (resulting from thermal treatment)
have been studied by means of small angle x-ray diffraction patterns. This work is
an expansion of the observations discussed earlier by Yu. A. Zubov, D. Ya. Tsvankin,
G. S. Markova, and V. A. Kargin (Dokl. AN SSSR, 157, 948, 1964). The experimental
methods have been described by G. Kh. Razikov, Yu. A. Zubov, G. S. Markova, and V.
A. Kargin (Vysokomolek. soyed., 5, 760, 1963). Studies of repeated heating-
cooling experiments have shown that irreversible changes are due to the increase in

UDC: 678.01:53

Card 1/2

L 27330-66

ACC NR: AP6008961

the size of crystallites and amorphous areas occurring during annealing, while the reversible changes can be explained by differences in molecular mobility and thermal expansion in crystallites and amorphous areas, as well as by reversible recrystallization. "The authors express their gratitude to A. I. Kitaygorodskiy for evaluating the results and for many valuable suggestions." Orig. art. has: 1 table and 5 figures.

SUB CODE: 07, 11/SUBM DATE: 26Nov64/ ORIG REF: 005/ OTH REF: 004

Card 2/2

ZUBOV, Yu.A.; TSVANKIN, D.Ya.

Temperature-induced changes of the long period in oriented
polymers. Part 2. Vysokom. soed. 7 no.11:1848-1856 N '65.
(MIRA 19:1)

1. Institut elementoorganicheskikh soedineniy AN SSSR i
Fizikokhimicheskiy institut imeni L.Ya. Karpova, Moskva.
Submitted November 26, 1964.

A L 11609-66 ENT(m)/EWP(J)/T RM	
ACC NR: AP6001866	SOURCE CODE: UR/0190/65/007/012/2126/2131
AUTHORS: ^{44,55} Andrichenko, Yu. D.; ^{44,55} Druzhinina, T. V.; ^{44,55} Zubov, Yu. A.; ^{44,55} Konkin, A. A.; ^{44,55} Tsvankin, D. Ya.	
ORG: ^{44,55} Moscow Textile Institute (Moskovskiy tekstil'nyy institut); ^{44,55} Institute for Heteroorganic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy, AN SSSR)	
TITLE: Study of the structure and properties of <u>polyethylene fibers</u>	
SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2126-2131	
TOPIC TAGS: polymer, crystalline polymer, linear polymer , polyethylene, elastic modulus, elasticity, <i>molecular structure, solid mechanical property, synthetic fiber, x ray scattering</i>	
ABSTRACT: The influence of supermolecular structure on the mechanical properties of polyethylene fibers was studied. A particular emphasis was placed on the effect of stretching on the structural transformation of linear polyethylene fibers. The experiments were carried out at ILOC. The structural changes were investigated by means of x-ray spectroscopy, birefringence, and density determinations. The interpretation of large angle x-ray scattering data was carried out by the method of D. Ya. Tsvankin (Vysokomolek. soyed., 6, 2078, 2083, 1964). Mechanical properties of the fibers determined as a function of the degree of stretching are presented in	
Card 1/2	UDC: 678.01:53+678.742

L 11609-66

ACC NR: AP6001866

tables and graphs. It was found that complete orientation of crystallites was realized at 800% stretching. The so-called large period first decreases from 200 Å to 173 Å, and then increases to 212 Å with increase in the degree of stretching. At higher degrees of stretching, the intensity of the large period decreases sharply. It is suggested that the marked increase in the elasticity modulus which increases in the large period is associated with the orientation of crystallites and with the increased degree of crystallinity of the polymer fibers. Orig. art. has: 2 tables and 4 graphs.

SUB CODE: 11/ SUBM DATE: 26Jan65/ ORIG REF: 003/ OTH REF: 001

Card 2/2

KAZARYAN, I.G.; TSVANKIN, D.Ya.

Amorphous texture of polyethylene terephthalate films. *Vysokom.*
soed. 7 no.1:80-87 Ja '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

DATE: 1/27/83 BY: [illegible] RM

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9"

TSVANKIN, D.Ya.

Diffraction on a linear system of crystallites: Long periods in
polymers. Part 1. Vysokom. soed. 6 no.11:2078-2082 N '64
(MIRA 18:2)

Diffraction on a linear system of crystallites: Long periods
in polymers. Part 2. Ibid.:2083-2089

1. Institut elementoorganicheskikh soedineniy AN SSSR.

ZUBOV, Yu.A.; TSVANKIN, D.Ya.; MARKOVA, G.S.; KARGIN, V.A.

Large periods in polypropylene fibers. Part 1: Effect of orientation and heat treatment (annealing) on the size of the large periods. Vysokom. soed. 6 no.3:406-411 Mr'64.
(MIRA 17:5)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni Karpova.

TAGER, Anna Aleksandrovna. Prinimali uchastiye: TSVANKIN, D.Ya.;
BORISOVA, T.I.; BURSHTeyN, L.L.; SLINKIN, A.A.; DULOV, A.A.;
MIKHAYLOV, G.P., red.; ROGAYLINA, A.A., red.; SHPAK, Ye.G.,
tekhn. red.

[Physical chemistry of polymers] Fiziko-khimiia polimerov.
Moskva, Goskhimizdat, 1963. 528 p. (MIRA 16:12)
(Polymers)

KAZARYAN, L.G.; TSVANKIN, D.Ya.

X-ray diffraction study of the degree of orientation. Vysokom.
soed. 5 no.7:976-978 J1 '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Polymers) (X rays—Diffraction)

KITAYGORODSKIY, A.I.; TSVANKIN, D.Ya.; PETROV, Yu.M.

Large periods in polyethylene terephthalate films. Vysokom.sped.
5 no.7:1062-1068 JI '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Terephthalic acid)
(X rays--Scattering)

TSVANKIN, D.Ya.

Orientation of crystallites in a polyethylene terephthalate
film. Part 2. Vysokom.soed. 5 no.1:129-134 Ja '63.
(MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Polyethylene) (Terephthalic acid) (Crystallography)

TSVANKIN, D. Ya.

Orientation of crystallites in a polyethylene terephthalate
film. Part 1. *Vysokom.sped.* 5 no.1:123-128 Ja '63.
(MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Polyethylene) (Terephthalic acid) (Crystallography)

MOSKATOV, K.A.; CVANKIN, D.J. [~~Ts~~vankin, D.Ya.]# VLK, Oldrich [translator]

Changes in the structure of capron in thermal processing. Chem prum, 12 no.11:625-628 N '62.

1. Vedeckovyzkumny a konstrukcni ustav potravinarskych stroju, Moskva, (for Moskatov). 2. Institut zakladnich organickych latek, Akademii ved SSSR, Moskva (for Cvankin). 3. Vyzkumny ustav syntetickych pryskyric a laku, Pardubice (for Vlk).

KAZARYAN, L.G., TSVANKIN, D.Ya., ROGOVINA, L.Z.

Study of the orientation process during deformation of polypropylene

Report presented at the 13th Conference on the high-molecular compounds
Moscow, 8-11 Oct 62

KORSHAK, V.V.; TSVANKIN, D.Ya.; KRUKOVSKIY, S.P.

Polyethylene terephthalate films (lavan) with grafted
polystyrene. Dokl. AN SSSR 146 no.6:1347-1348 0 '62.

(MIRA 15:10)

1. Chlen-korrespondent AN SSSR (for Korshak).
(Terephthalic acid) (Polyethylene) (Styrene polymers)

S/190/63/005/001/016/020
B101/B186

AUTHOR: Tsvankin, D. Ya.

TITLE: Orientation of crystallites in polyethylene terephthalate film. I

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 1, 1963, 123-128

TEXT: To obtain full information on the dispersion of orientation of crystallites in stretched polyethylene terephthalate film, the known method of pole figures for studying the structure of metals and alloys was used. Two series of x-ray pictures were taken, one of a specimen cut out of the film parallel to the stretch axis, the other of a specimen cut out perpendicularly to this. Pole figures were constructed for the vectors lying in the film plane, \vec{H}_{105} , which forms an angle of $\sim 50^\circ$ with the stretch axis, \vec{H}_{100} , which is perpendicular to \vec{H}_{105} , and the auxiliary vectors \vec{H}_{103} , \vec{H}_{010} , and \vec{H}_{110} lying in a plane perpendicular to the film plane. The pole figures of \vec{H}_{100} and \vec{H}_{105} consist of two regions characterizing the orientation

Card 1/2

S/190/63/005/001/016/020
B101/B186

Orientation of crystallites...

of all crystallites in the film. The pole figures of \vec{H}_{010} , \vec{H}_{110} , and \vec{H}_{103} consist of four regions, each pair of regions characterizing the orientation of half of the crystallites. A discussion of the resulting pole figures will follow in another paper. There are 4 figures. The most important English-language reference is: C. Barrett, Structure of Metals, New York, 1957.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental Organic Compounds AS USSR) 1/

SUBMITTED: August 29, 1961

Card 2/2

S/190/63/005/001/017/020
B101/B186

AUTHOR: Tsvankin, D. Ya.

TITLE: Orientation of crystallites in polyethylene terephthalate film. II

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 1, 1963, 129-134

TEXT: On the basis of his previous paper (Vysokomolek. soyed., 5, 123, 1963) describing the method of constructing pole figures from x-ray pictures, the author deals here with the shape of pole figures of the vectors \vec{H}_{105} , \vec{H}_{100} , \vec{H}_{103} , \vec{H}_{010} and \vec{H}_{110} which were drawn for stretched polyethylene terephthalate film. The pole figure of \vec{H}_{105} which characterizes the distribution of the axes of macromolecules consists of elongated regions along the central meridian of projection lying in the film plane. The pole figure of \vec{H}_{100} is made up of two ellipses with the major axis lying in the equator of projection. The pole figure of \vec{H}_{103} consists of two ellipses on the equator, on both sides of the points where the equator

Card 1/2

Orientation of crystallites...

S/190/63/005/001/017/020
B101/B186

intersects the central meridian. The pole figures of \vec{H}_{010} and \vec{H}_{110} are circles with an elliptic bulge, toward the intersection equator - central meridian for the former vector and away from the intersection resembling horizontal drops for the latter. The pole figure of \vec{H}_{105} shows that the main quantity of macromolecules are oriented nearly in the same direction, while a small group of macromolecules shows arbitrary orientations. A comparison of the pole figures of \vec{H}_{100} with \vec{H}_{010} and \vec{H}_{110} shows that one half of the crystallites are turned in one direction by \vec{H}_{105} , the other half in the opposite direction. The straggling amplitude attains 40° . The straggling around the axis perpendicular to \vec{H}_{100} and \vec{H}_{105} is only $10-15^\circ$. The structure consists of two incomplete axial structures, the axes of which are the axis of the macromolecules and the normal to the film plane. There are 2 figures. ✓

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR
(Institute of Elemental Organic Compounds AS USSR)

SUBMITTED: August 29, 1961
Card 2/2

BERESTNEVA, G.L.; TSVANKIN, D.Ya.; KOZLOV, P.V.

Effect of stretching on ~~the~~ structure and properties of polyethylene-terephthalate films. Part 5: X-ray diffraction studies of crystallization processes occurring in uniaxially oriented films. Vysokom.-soed. 3 no.12:1787-1793 D '61. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut i Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ethylene polymers) (Crystallization)

54460

15840

h1738

S/020/62/146/006/012/016

B106/B186

AUTHORS: Korshak, V. V., Corresponding Member AS USSR, Tsvankin, D. Ya., Krukovskiy, S. P.

TITLE: Investigation of polyethylene terephthalate (Lavsan) foils with grafted polystyrene

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 6, 1962, 1347-1348

TEXT: With a view to investigating how much the structure of a polymer foil is affected by grafting another polymer onto the same, the following grafting experiments were made: amorphous layers of polystyrene of different thicknesses were grafted onto two 28- μ thick crystalline foils of polyethylene terephthalate by keeping the mixture of both compounds at 80°C for 3 and 8 hrs, respectively, in a nitrogen atmosphere together with styrene. Results: after heating the mixture for 3 hrs, a foil 46 μ thick with a yield of 20.95% (by weight of the initial foil) of grafted polystyrene was obtained and after heating the same for 8 hrs, a foil, 143 μ thick with a yield of 195% was the result. For control purposes, two foils were prepared by laminating the same original materials in a simple manner, using Card 1/2

Investigation of polyethylene ... S/020/62/146/006/012/016
 the same proportions by weight. X-ray pictures of the two grafted samples B106/B186
 were compared with the two control samples. In addition, cross-sectional
 photographs of the grafted samples were examined. The polyethylene
 terephthalate foil was found to remain unaffected by the grafted polystyrene. ✓
 This indicates that the major part of crystals of the initial foil does not
 participate in the grafting process and that neither the structure nor the
 relative orientation of crystallites in the foil is disturbed. The cross-
 sectional photographs revealed a comparatively sharp boundary between the
 grafted layer of polystyrene and the initial foil. The transition zone is
 considerably smaller than the thickness of the grafted layer. All this
 shows that grafting occurs only in an extremely thin surface layer of the
 foil. The polymer used for grafting will not penetrate farther into the
 base foil even if its thickness is increased. There are 2 figures.

SUBMITTED: June 5, 1962

Card 2/2

MOSKATOV, K.A.; TSVANKIN, D.Ya.

Changes in the structure of capron on thermal treatment. Vysokom.-
soed. 4 no.2:201-206 F '62. (MIRA 15:4)

1. Nauchno-issledovatel'skiy i eksperimental'no-konstruktorskiy
institut prodovol'stvennogo mashinostroyeniya i Institut elemento-
organicheskikh soyedineniy AN SSSR.

(Nylon)

TSVAYGEL', YU. A.

USSR/Engineering

Card 1/1

FD 274

Authors : Gubkin, S. I., Active Member, and Yu. A. Tsvaygel'.

Title : Deformability of bronzes in pressure working

Periodical : Iz. Ak. Nauk SSSR, OTN, 1, 128-137, Jan 1954

Abstract : Presents results of experimental study of mechanical and technological properties of the three standard copper-base alloys: aluminum-iron bronze BrAZh9-4, beryllium bronze BrB2, and tin-phosphorous bronze BrOF7-0.2. Establishes optimum temperature ranges for hot working. Gives properties from 20⁰ C to 900⁰ C under various types of load. Tables, graphs.

Institution : Academy of Sciences of the Belorussian SSR

Submitted : March 11, 1953

TSVAYGEL, Yu, A.

11579* Deformability of Pressure Worked Bronges. (Russian.) S. I. Gubkin and Yu. A. Tsvaygel. *Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk*, 1954, no. 1, Jan. 1, p. 128-137.

Investigation of Al-Fe, Be, and Sn-P bronzes from 20 to 900 C. Tables, graphs. 1 ref.

OSTROVITYANOV, Emiliy Mikhaylovich; IVANOV, Boris Yakovlevich;
AFANAS'YEV, A.A., retsenzent; ZASLAVSKIY, M.A., retsenzent; SHVETSOVA,
T.P., retsenzent; TSVAYGENBAUM, B.M., retsenzent; MELIKSET'YAN, M.A.,
retsenzent; MINAYEVA, T.M., redaktor; POPOVA, T.G., tekhnicheskii
redaktor

[Technology of footwear; assembling uppers, molding, sewing and
finishing processes] Tekhnologiya obuvi; sborka zagotovok,
formovochnye, poshivochnye i otdelochnye protsessy. Moskva, Gos.
nauchno-tekhn. izd-vo M-va legkoi promyshl. SSSR, 1956. 391 p.
(MLBA 10:5)

(Shoe industry)

TSVAYNER, Ya.P.; ORIGOR'YEVA, N.P.

Abberant mammary gland on labium majus. Akush. 1 gig. 33 no.2:
89-90 Mr-Ap '56. (MLRA 9:7)

1. Iz ginekologicheskogo otdeleniya Sorikskoy gorodskoy bol'nitsy
(glavnyy vrach F.P.Zatvornitskiy) i respublikanskogo onkologicheskogo
dispansera (glavnyy vrach G.B.Khonelidze)
(VULVA) (MAMMARY GLANDS)

TSVANTSINGER B. INZH.-TEKHNOLOG

"Zadachi puskovogo perioda Kashpirskogo slantseperegonnogo zavoda", p.8

Goryuchiye Slantsy, No 5-6, 1932

TSVANTSINGER B.

"V sapropelevom voprose nakonets vnov' nastupayet yasnost", p. 47

Goryuchiye Slantsy, No. 5-6, 1932

TSVANTSINGER B.

"O rabote N.G. Shchekoldina po sapropelyam v SSSR" p. 45

Goryuchiye "Slantsy, No. 2, 1932.

TSVANTSINGER B.

"Syr'yevaya baza dlya pervykh sapropelevykh zavodov", p. 46

Goryuchiye Slantsy, No. 7, 1932

TSVANTSINGER B. V.

"Po-udarnomu zakonchit' stroitel'stvo zavodov", P. 12

Goryuchiye Slantsy, No 4, 1932

TSVANTSINGER B. V.

"O rabote N. G. Shchekoldina po sapropelyam v SSSR," p.46, Goryuchiye
Slantsy, No. 1, 1932

TSVANTSIGER, B.V.

Orabote N.G. Shchekoldina Po Sapropelyam V SSSR, Goryuchiye Slantsy,
1932, No. 1, 46, No. 2, 45.

SO: Goryuchiye Slantsy #1934-35, TN .871
G .74

TSVANTSIGER, B.V.

P6-Udarnomu Zakonchit' Stroitel' St Vo Zavodov, Goryuchiye Slantsy, 1932,
No. 4, 12.

SO: Goryuchiye Slantsy #1934-35, TN .871
G .74

TSVANTSIGER, B.V.

Zadachi Puskovogo Perioda Kashpirskogo Slantseperegonnogo Zavoda, Goryuchiye
Slantsy, 1932, No. 5-6, 8.

SO: Goryuchiye Slantsy #1934-35, TN .871
G. .74

TSVANTSIGER, B.V.

V Sapropel'evom Voprose, Hakonets, Vnov' Nastupayet Yasnost, ' Goryuchiye
Slantsy, 1932, No. 5-6, 47.

SO: Goryuchiye Slantsy #1934-35, TN .871
G .74

TSVANTSIGER, B.V.

Syr'Yevaya Baza Dlya Pervykh Sapropo-Levykh Zavodov, Goryuchiye Slantsy,
1932, No. 7, 46.

SO: Goryuchiye Slantsy #1934-35, TN .871
G .74

TSVANTSIGER, B.V.

Ob' Asfal'Takh I Bitumakh Iz Slantsevoy Smoly, Goryuchiye Slantsy, 1932,
NO. 11-12, 61.

SO: Goryuchiye Slantsy #1934-35, TN .871
G .74

~~RESTRICTED~~

TSVANTSIGER, B. V.

TSVANTSIGER, B. V.

Bull. Acad. Sci. USSR, Phys. Ser. 11, 374 (1947)

Determination of the molecular composition of a fraction of a semi-tarry material by means of the Raman effect.

~~RESTRICTED~~

TSVANTSIGER, B. V.

72B

2876

UOON/ruyajas

Spectrography
Pitch - Composition

Jul/Aug 1947

PA 2876

"Using the Composite Dispersion of Light to Determine the Molecular Composition of Fractioning of Semicoke Pitches," B. V. Tsvantsiger, 1 1/2 pp

"Iz Ak Nauk, Ser Fiz" Vol XI, No 4

A short summary of a longer report of work conducted at VNIGI during 1945 and 1946, in connection with work of the Research and Investigation Institute of Chemistry of MZU, with respect to the adoption of composite dispersion of light to study the fractionating composition of semicoke pitches. The method

FDS

2876

USSR/Physics (Contd)

Jul/Aug 1947

used by the author is known as the layer study of spectra. Has several comments by other scientists.

21

Ca

Gasification of solid fuels. V. V. Tyvantsiger. Russ. 60,551, Feb. 20, 1940. Fuels are blown in a producer with waste gases (contg. steam and CO₂) from the manuf. of cement.

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

COMMON ELEMENTS

MATERIALS INDEX

GROUPS

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

COMMON ELEMENTS

MATERIALS INDEX

GROUPS

GAGEN-TORN, K.V.; KOTOV, V.V.; Prinimali uchastiye: LEVIN, Z.G.;
TSVAYGEL', L.D.

Requirements of industrial emulsions for brass pipe and rod
drawing. Trudy Giprotsetmetobrabotka no.24:264-268 '65.
(MIRA 18:11)

KOTOV, V.V.; *Prinimala uchastiye* TSVAYGEL', L.D.

Methods of determining and removing internal stresses
in brass (L62) rectangular cross-section pipe. Trudy
Oiprotsevatnastotrabotaa no.24,236-241 '65. (MIRA 19:11.)

~~Tsvaygel, Yu. A.~~

~~Tsvaygel, Yu. A.~~

Information on Bronze Processing
in the USSR

Izv. Akad. Nauk, Old.

Tekhn. Nauk

(1), 129-137

1954

U. S. S. R.

S. I. Rubkin, Yu. A. Tsvaygel

Tests were carried out with static and dynamic pressure
processing of bronze (Al-Pb, Fe and Sn-P) at various
temperatures. Optimum temperature intervals have been
indicated. It is concluded that the experimental results
confirm the existing data on the
mechanism of bronze processing.

62

①

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757210018-9"

TSVAYGEL, YU. A.

MOSCOW INST OF NONFERROUS METALS AND GOLD INST. N. I. KALININ

TSVAYGEL, YU. A. (ENGR) -- "INVESTIGATION OF THE DEFORMATION OF PRESSURE-ADDED LAYERS."

SUB 10 JAN 52, MOSCOW INST OF NONFERROUS METALS AND GOLD INST. N. I. KALININ (DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCES)

OO: VECHERNIAYA MOSKVA, JANUARY-DECEMBER 1951

GUBKIN, S.I.; TSVAYGEL', Yu.A.

Deformability of bronze processed by pressure methods. Izv. AN
SSSR Otd.tekh.nauk no.1:128-137 Ja '54. (MLRA 7:3)

1. Deystvitel'nyy chlen Akademii nauk BSSR.
(Bronze) (Deformations (Mechanics))

KUBASHKINA, T.S.; GERCHIKOVA, N.S.; TSVAYGENBAUM, B.M.

New rubber heel design. Kozh.-obuv. prom. 5 no.6:22-30 Je '63.
(MIRA 16:6)

TSVAYNER, Ya.P.

Intestinal obstruction as a complication of pregnancy. Akush.
i gin. 34 no.5:112 S-0 '58 (MIRA 11:10)

1. Iz Sorokskogo rodil'nogo doma.
(PREGNANCY, COMPLICATIONS OF)
(INTESTINES--OBSTRUCTION)

TSVAYNER, YA. P.

Labor, complicated.

TSov'yanov's method of labor conduction in breech presentation. Sov. med. 16,
no. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 195~~8~~² Uncl.

PALLADI, G.A.; TSVAYNER, Ya.P.

Case of abdominal pregnancy in the later stages. Zdravookhranenie
3 no.6:55 N-D '60. (MIRA 13:12)

1. Iz ob'yedinennoy bol'nitsy g. Soroki (glavnyy vrach T.I. Shevtsov).
(PREGNANCY, EXTRAUTERINE)

TSVAYNER, Ya.P.

Cytologic diagnosis of cancer of the corpus uteri. Akush.1 gin. no.2:
83-85 Mr-Ap '54. (MLRA 7:6)

1. Iz kafedry akusherstva i ginekologii (ispolnyayushchiy obyazannost'
zaveduyushchego dotsent R.N.Kazarosyan) Tashkentskogo instituta usovershen-
stvovaniya vrachey. (Uterus--Cancer)

SKVARCHENKO, V.R.; TSVBIKOVA, D.TS.; LEVINA, R.Ya.

Aromatic hydrocarbons. Part 28: Thermal aromatization of
1,2,3,6-tetrahydrobenzoic acids to benzene and alkyl benzenes.
Zhur.ob.khim. 33 no.4:1069-1071 Ap '63. (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Cyclohexanecarboxylic acid) (Aromatization)
(Benzene derivatives)

TSVELEN'YEV, B.V.

Grab bucket for loose materials. Mashinostroitel' no.8:12 Ag '64.
(MIRA 17:10)

KRIMER, R.N., inzh.; TSVELENEVA, G.V., inzh.; DYNKINA, A.G., inzh.

Rapid method of drying large porcelain insulators. Stek.
1 ker. 21 no.7:28-32 J1 '64. (MIRA 17:10)

1. Moskovskiy zavod "Izolyator."

TSVELEV, N.N.

New species of the alkali grass genus *Puccinellia* Parl. from
Central Asia. Bot.nat.Gerb. 17:57-69 '55. (MLRA 9:5)
(Asia, Central--Alkali grass)

TSVELEV, N. N.

Study of Far Eastern species of alkali grass (Puccinellia Parl.)
Bot.mat.Gerb. no.16:45-55 '54. (MIRA 8:9)
(Alkali grass)

TSVELIV, N.N.

Notes on the grasses of the U.S.S.R. Bot. nat. Gerb. 18:22-33 '57.
(Grasses) (MIRA 10:6)

TSVELEV, N.M.; BOLKHOVSKIKH, Z.V.

Genus *Zingeria* P. Smirn. and allied genera of the Gramineae family; a karyosystematic research. Bot. zhur. 50 no.9:1317-1320 S '65. (MIRA 18:10)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

TSVELEV, N.N.; GRIF, V.G.

Karyosystematic study of the genus *Eremopoa* Roshev. (Gramineae).
Bot.zhur. 50 no.10:1457-1460 0 '65.

(MIRA 18:12)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

TSVELEV, N.N.

Love grass *Eragrostis diarrhena* (Schult.) Steud., a remarkable
relict of the Volga Delta. Bot.zhur. 50 no.11:1632-1635 N '65.
(MIRA 19:1)

1. Botanicheskiy institut imeni V.L.Komarova AN SSSR, Leningrad.
Submitted May 7, 1965.

BORISOVA, A.G.; VASIL'YEV, V.N.; VASIL'CHENKO, I.T.; KIRPICHNIKOV, M.E.;
LEONOVA, T.G.; LIPSHITS, S.Yu.; TSVELEV, N.N.; CHEREFANOV, S.K.;
SHISHKIN, B.K. [deceased]; BOBROV, Ye.G., prof. doktor biol.nauk,
red. toma.

[Cichorioideae.] Cichorioideae. Moskva, Izd-vo Nauka, 1964. 796 p.
(Flora SSSR, vol.29) (MIRA 18:2)

BORISOVA, A.G.; BOCHANTSEV, V.P.; VASIL'CHENKO, I.T.; GOLUBKOVA, V.F.;
GORSHKOVA, S.G.; GRUBOV, V.I.; KIRPICHNIKOV, M.E.; SMOL'YANINOVA, L.A.;
TAMAMSHYAN, S.G.; TSVELEV, N.H.; YUZEPCHIK, S.V.; KOMAROV, V.L.,
akademik, glavnyy red.; SHISHKIN, B.K., red.izdaniya; BOBROV, Ye.G.,
doktor biol.nauk, prof., red.; SMIRNOV, A.V., tekhn.red.

[Flora of the U.S.S.R.] Flora SSSR. Moskva, Izd-vo Akad.nauk
SSSR. 1959. 630 p. (MIRA 12:8)

1. Chlen-korrespondent AN SSSR (for Shishkin).
(Compositae)

TSVELEV, N.N.

Critical notes on some sections of the genus Centaurea L.
Bot.mat.Gerb. 19:409-441 '59. (MIRA 12:8)
(Thistle)

TSVELEV, H.N.

New species from southern Transcaucasia. Bot.mat.Gerb. 19:3-
19 '59. (MIRA 12:8)

(Transcaucasia--Botany)

TSVILEV, N.N.

New or little-known species from the Caucasus. Bot.mat.
Gerb. 20:23-30 '60. (MIRA 13:7)
(Caucasus--Botany)

TSVELEV, N.N.

Two new species of the genus *Centaurea* L., section
Psephelloideae (Boiss.) D.Sonn. from Turkey. Bot.mat.
Gerb. 20:399-404 '60. (MIRA 13:7)
(Turkey--*Centaurea*)

TSVELEV, N. N.

Some new or little-known plant species from the Pamirs.
Bot.mat.Gerb. 20:413-439 '60. (MIRA 13:7)
(Pamirs--Botany)

TSVELEV, N.N.

Genus Hesperis L. in the U.S.S.R. Bot.mat.Gerb. 19:114-155
'59. (MIRA 12:8)
(Hesperis)

BORISOVA, A.G.; BOCHANTSEV, V.P.; VASIL'CHENKO, I.T.; GOLUBKOVA, V.F.;
GORSHKOVA, S.G.; GRUBOV, V.I.; KIRPICHNIKOV, M.E.; SMOL'YANINOVA,
L.A.; TAMAMSHYAN, S.G.; TSVELEV, N.N.; TSVETKOVA, L.I.; YUZEP-
CHUK, S.V.; SHISHKIN, B.K., red.toma; BOBROV, Ye.G., doktor
biol.nauk, prof., red.: SMIRNOVA, A.V., tekhn.red.

[Compositae] Compositae. Moskva, Izd.-vo Akad.nauk SSSR, 1959.
630 p. (Akademia nauk SSSR. Botanicheskii institut. Flora
SSSR. no.25) (MIRA 13:4)
(Compositae)

TSVAYEV, N.N.

A new species of the genus *Rorippa* Scop. Bot. mat. Gerb. 18:98-100
'57. (MIRA 10:6)

(Pavlodar Province--Yellow cross)

KOMAROV, V.L., akademik, glavnyy red.; SHISHKIN, B.K., red. izdaniya;
BOBROV, Ye.G., doktor biol.nauk, prof.red.; VASIL'CHENKO, I.T.,
red.; GORSHKOVA, S.G., red.; GRIGOR'YEV, Yu.S., red.; GUDOV, V.I.,
red.; DOROFEEV, P.I., red.; IL'INSKAYA, I.A., red.; KLOKOV, M.V.,
red.; KUPRIYANOVA, L.A., red.; LINCHEVSKIY, I.A., red.; NOVOPOKROV-
SKIY, I.V., red.; POBEDIMOVA, Ye.G., red.; POPOV, M.G., red.;
POYARKOVA, A.I., red.; SHTeyNBERG, Ye.I., red.; TSVELEV, N.N., red.;
SMIRNOVA, A.V., tekhn.red.

[Flora of the U.S.S.R.] Flora SSSR. Moskva, Izd-vo Akad. nauk
SSSR, 1958. 775 p.

(MIRA 12:7)

1. Chlen-korrespondent AN SSSR (for Shishkin).
(Botany)

TSVELEV, N.N.

Notes on gramineous plants in the flora of the U.S.S.R. Report No.2.
Bot. mat. Gerb. 21:20-50 '61. (MIRA 14:10)
(Grasses)

AFANAS'YEV, K.S.; BOCHANTSEV, V.P.; VASIL'CHENKO, I.T.; GORSHKOVA, S.G.;
IL'IN, M.M.; KIRPICHNIKOV, M.E.; KNORRING, O.E.; KUPRIYANOVA, L.A.;
POBEDIMOVA, Ye.G.; POLYAKOV, P.P.; POYARKOVA, A. I.; SMOL'YANINOVA, L.A.;
FEDOROV, An.A.; TSVETKOVA, L.I.; TSVELEV, N.N.; SHISHKIN, B.K.;
KOMAROV, V.I., akademik, glavnyy red.; BOBROV, red.toma; SHISHKIN, B.K.;
red.izd.; SMIRNOVA, A.V., tekhn.red.

[Flora of the U.S.S.R.] Flora SSSR. Moskva, Izd-vo Akad.nauk
SSSR. 1961. 938 p. (Flora SSSR, vol. 26). (MIRA 15:2)

1. Chlen-korrespondent AN SSSR (for Shishkin).
(Compositae)

TSVELEV, N.N.

Mode of the distribution of water chestnut (Trapa L.) in the
past and its extinction in historical times. Bot. zhur. 49
no.9:1338-1340 S '64. (MIRA 17:12)

1. Botanicheskiy institut im. V.L. Komarova AN SSSR, Leningrad.

RE3RISTAYA, O.V.; SKVORTSOV, A.K.; TOLMACHEV, A.I.; TSVELEV, N.N.;
YURTSEV, B.A.

[Arctic flora of the U.S.S.R.; a critical survey of
vascular plants found in the Arctic regions of the U.S.S.R.]
Arkticheskaya flora SSSR; kriticheskii obzor sosudistykh ra-
stenii, vstrechaiushchikhsia v arkticheskikh raionakh SSSR.
Moskva, Nauka. No.2. [Family Gramineae] Semeistvo Gramineae.
1964. 272 p. (MIRA 17:10)

TSVELEV, N.N.

Some rare species of the Crimean flora. Bot.nat.Cauc, 22:3-7 1963.

Notes on grasses of the U.S.S.R. Report No. 3. Ibid.:51-69

Claone ornithophiloides L. sensu lato in the U.S.S.R. Ibid.:122-134
(MIRA 17:2)

BOCHANTSEV, V.P.; TSVELEV, N.N.

The new genus *Sisymbriopsis* Nob. of the mustard family. Bot.
mat. Gerb. 21:143-145 '61. (MIRA 14:10)
(Pamirs--*Sisymbriopsis*)

TSVELEV, N.N.

A new species of the genus *Hesperis* L. from Turkey. Bot. mat.
Gerb. 21:146-147 '61. (MIRA 14:10)
(Malazgirt region, Turkey--Rocket (Botany))

BOBROV, Ye.G., doktor biol.nauk, prof.; VASIL'CHENKO, I.T.; GORSHKOVA,
S.G.; GRIGOR'YEV, Yu.S.; GRUBOV, V.I.; DOROFYEV, P.I.; IL'INSKAYA,
I.A.; KLOKOV, M.V.; KUPRIYANOVA, L.A.; LINCHEVSKIY, I.A.;
NOVOPOKROVSKIY, I.V.; POBEDIMOVA, Ye.G.; POPOV, M.G.; POYARKOVA,
A.I.; SHTEYNBERG, Ye.I.; TSVELEV, N.N.; SHISHKIN, B.K., red.
izdaniya; SMIRNOVA, A.V., tekhn.red.

[Dicotyledons] Dicotyledons. Moskva, Izd-vo Akad.nauk SSSR, 1959.
775 p. (Akademia nauk SSSR.Botanicheskiy institut. Flora SSSR,
vol.23) (MIRA 13:4)

(Dicotyledons)